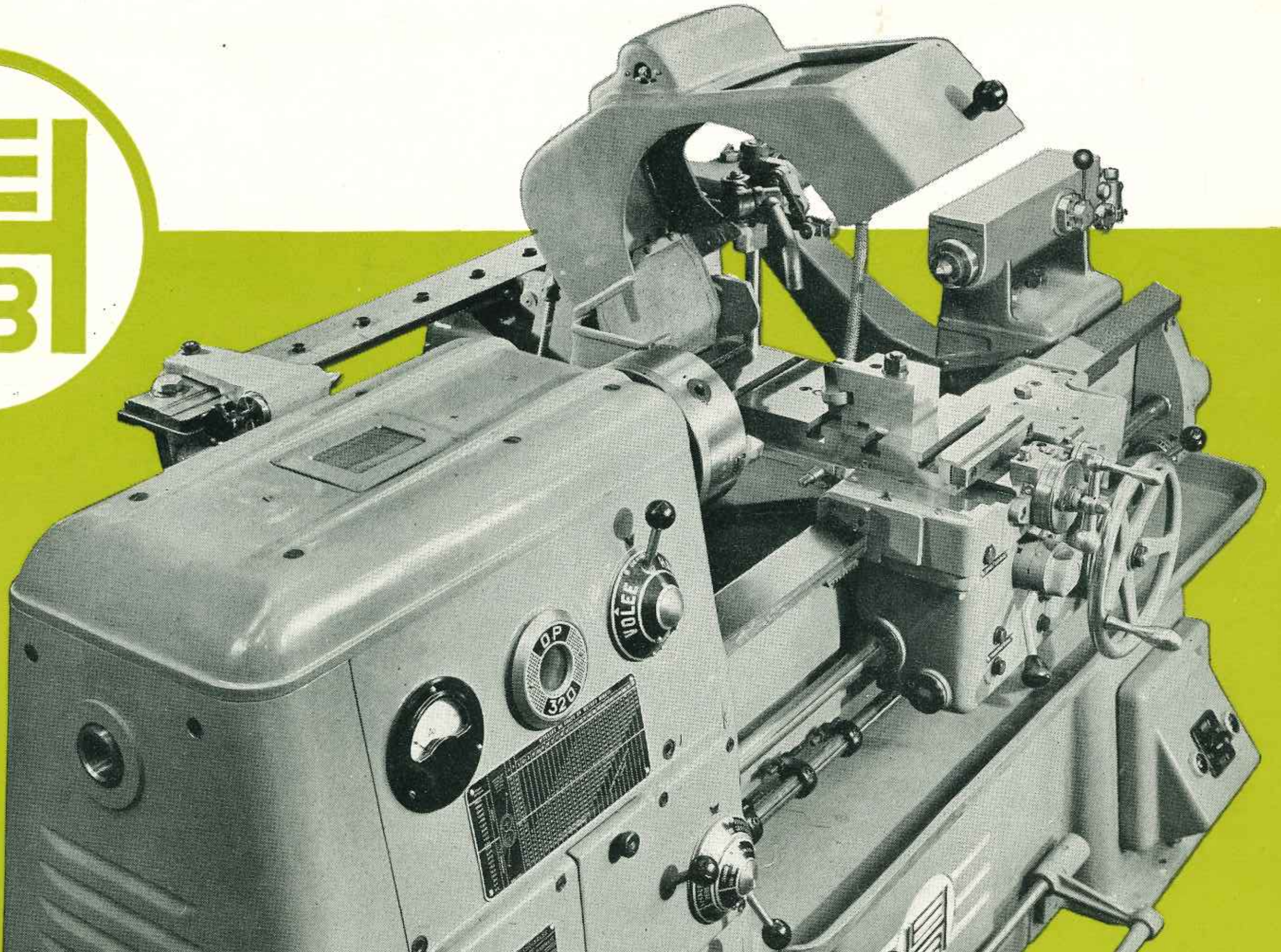
82/11.1 H

9/30/54

HIGH SPEED HYDRAULIC

COPYING LATHES



82/11.1

H • E • B MACHINE TOOLS, INC.

general Specifically designed for carbide and diamond tools. Machine can be used as ordinary high-speed center lathe without any adjustment. Powerful motor—up to 20 h.p.—for heavy cuts. Rear tool has longitudinal and cross feed movement.

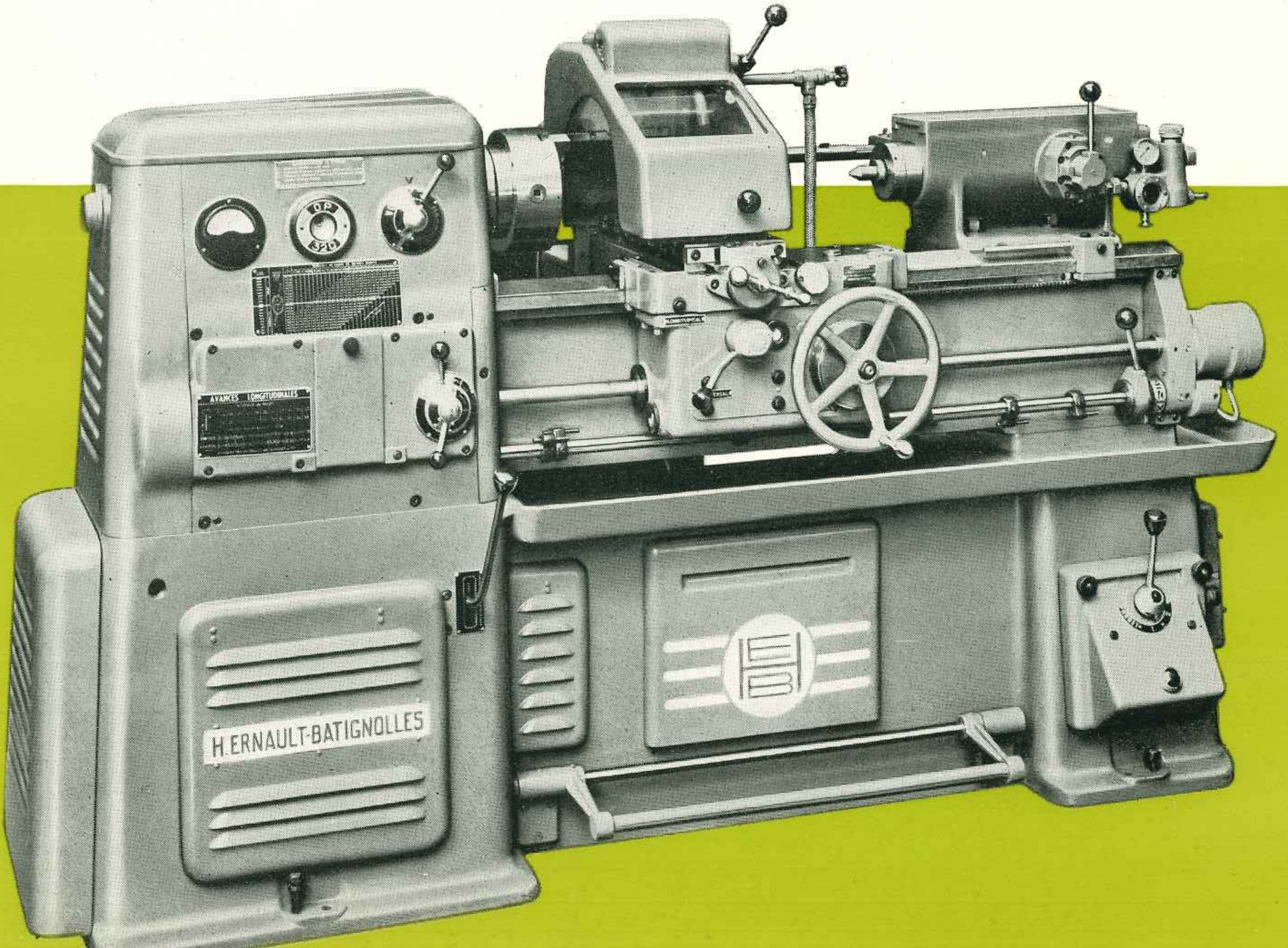
copying Copy-turns from flat templet or turned master. Setting time only 10 to 20 minutes for completely different component. No costly multiple or form tool set-ups required. Highest sensitivity permits faithful copying of complicated irregular shapes.

speed Optimum spindle speeds for carbide tools up to 3,600 r.p.m. Speeds and feeds quickly changed by means of pick-off gears. Instantaneous roughing—finishing feed reduction 3½:1. Instantaneous feed reversal.

rigidity Deep heavy bed and massive one-piece base. Gear box and motor rubber-mounted to eliminate vibration. No gears at high speeds between vee-belts and spindle. Vertical tool totally eliminates vibration due to overhang.

accuracy Only two sliding motions between bed and cutting tool. Copies to within ± .0004″ on diameter; rear tool maintains ±.0002″ on diameter. Axial lengths copied to within a limit of .0015″. Spindle runs in special precision taper roller bearings.

reliability No flexible oil pipes to get damaged or to cause obstructions. Hydraulic system is simple and fool-proof. No intricate mechanical or electronic system to maintain. Thoroughly tested and running successfully in hundreds of factories.

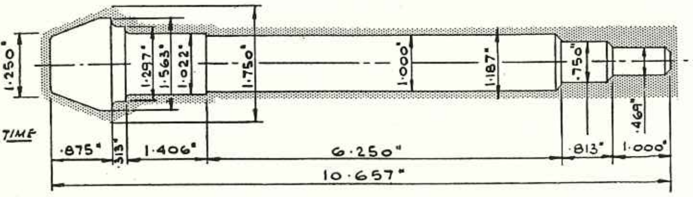


O P models

typical components machined on OP 320 & 420

DRIVE PINION

DROP FORGING, NICKEL CHROMIUM STEEL

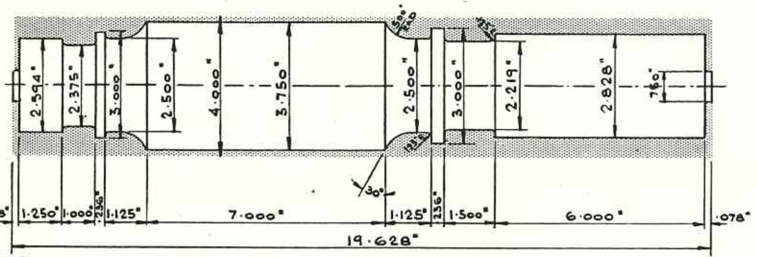


2 min

FLOOR TO FLOOR TIME

WORM SHAFT

NICKEL CHROMIUM STEEL

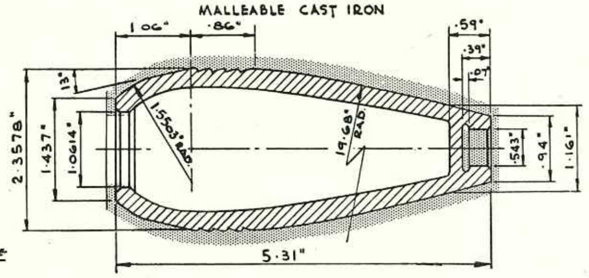


11.20 min

FLOOR TO FLOOR TIME

SHELL

MALLEABLE CAST IRON

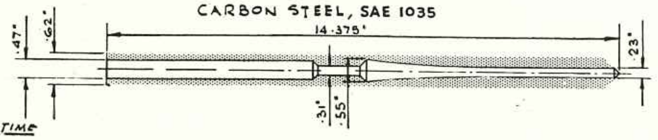


3 min

FLOOR TO FLOOR TIME

SPINNING SPINDLE

CARBON STEEL, SAE 1035

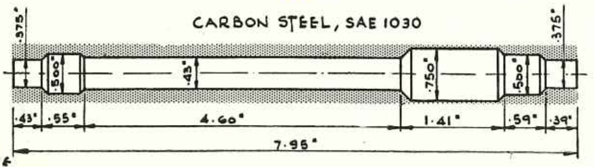


1 min

FLOOR TO FLOOR TIME

AXLE

CARBON STEEL, SAE 1030



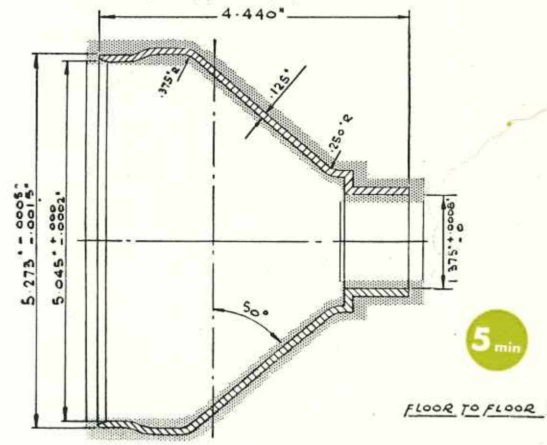
1.20 min

FLOOR TO FLOOR TIME

SEPARATOR

BRONZE OR BRASS.

ECCENTRICITY DOES NOT EXCEED ·0006"

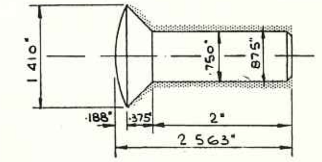


5 min

FLOOR TO FLOOR TIME

BOLT

DROP FORGING. SAE 1035. STEEL

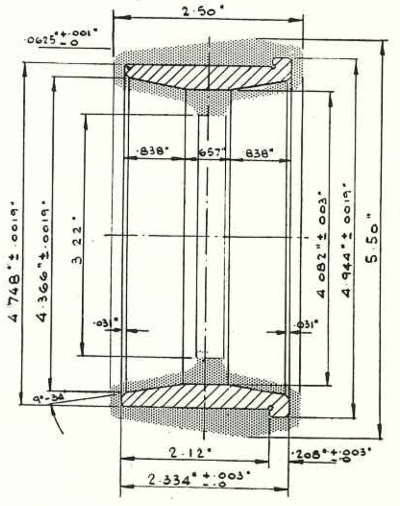


0.20 min

FLOOR TO FLOOR TIME

DOUBLE CUP FOR TAPERED ROLLER BEARING

DROP FORGING, NICKEL CHROMIUM STEEL



5.66 min

FLOOR TO FLOOR TIME

H • E • B — THE WAY TO TURN

specifications

	OP 320			OP 420			GT 420	
Capacity								
Swing over bed . . . . dia.	13½″			17½″			17½″	
Swing over saddle . . . dia.	5 11/16″			9 11/16″			9 11/16″	
Distance between centers	16″	28″	40″	16″	28″	40″	28″	40″
Headstock								
Number of spindle speeds	20			20			72	
Range of spindle speeds r.p.m.	50-3600			50-3600			1½-2400	
Hole through spindle for bar . . . . dia.	1 7/16″			1 7/16″			1 7/16″	
Taper of center . . . Morse	No. 5			No. 5			No. 5	
Spindle nose American standard	A1-6″			A1-6″			A1-6″	
Feeds								
Number of feeds	22			22			22	
Feed per rev. of spindle, longitudinal	.0008-.0354″			.0008-.0354″			.0008-.0354″	
Feed per rev. of spindle, cross-feed	.0004-.0177″			.0004-.0177″			.0004-.0177″	
Motor								
Horsepower	15 or 20			15 or 20			5 to 12	
Speed . . . . r.p.m.	1800			1800			900/1800	
Sizes								
Distance between centers	16″	28″	40″	16″	28″	40″	28″	40″
Machine, length	80″	92″	104″	80″	92″	104″	92″	104″
Machine, width	46″	46″	46″	46″	46″	46″	50″	50″
Machine, height	54″	54″	54″	56″	56″	56″	56″	56″
Shipping case, length . . .	97″	109″	121″	97″	109″	121″	109″	121″
Shipping case, width	56″	56″	56″	56″	56″	56″	60″	60″
Shipping case, height . . .	66″	66″	66″	68″	68″	68″	68″	68″
Cubic content . . . . . cu. ft.	210	235	260	214	240	270	260	290
Weight								
Net. incl. motor and control gear . . . . lbs.	4360	4700	4860	4460	4920	5080	5055	5198
Boxed for export shipping . . . . lbs.	5130	5480	5630	5250	5700	5850	5825	5970

STANDARD EQUIPMENT

Tailstock OP Range:
  Air-operated, stroke 3½″.
  Built-in live center.
  Live center unit for light work.
Tailstock GT Range:
  Mechanical, cylinder stroke 6″.
  Built-in live center.
Complete set of spindle speed change gears.
Complete set of feed change gears.
8½″ diameter three-jaw self-centering steel chuck and back plate.
1 set of hard and 1 set of soft jaws.
Splash guard with window and 24 volt lamp.
Electrical equipment in separate cabinet.
24 volt transformer.
Starter and motor overload protection
Ammeter.
Pressure lubrication system for apron.
Coolant pump with 1/10 h.p. motor and piping
Gear pump for headstock and gear box lubrication.
Automatic longitudinal stop bar with 7 stops.
Manually tripped stop bar for cross feed with 4 stops.
60° toolholder and 10 tools for right traversing.
Front toolholder with 15 tools.
Micrometric longitudinal stop.
Micrometric cross feed stop.
Set of wrenches and grease gun.

EXTRA EQUIPMENT

Roller bearing travelling steadyrest.
Roller bearing steadyrest.
Air compressor.
Air operated chuck, manually or foot operated.
Automatic chuck.
Carbide jaws for above.
Collet chuck, hand operated.
Collet chuck, self closing.
Adjustable V support.
Pin driver.
Faceplate.
Driver-plate.
Long spring-loaded spindle center.
Short spring-loaded spindle center.
Straight tangent toolholder with tool for right traversing.
Straight tangent toolholder with tool for left traversing and facing.
45° tangent toolholder with tool for right or left traversing.
Single rear-tool holder.
Double rear-tool holder.
Rear-tool holder adapter.
Front adapter for rear type toolholder.
Boring toolholder.

H.E.B. MACHINE TOOLS are manufactured in France by H. ERNAULT-BATIGNOLLES Machine Tool Division of the Batignolles-Chatillon Locomotive Construction Co. The three factories of this organization cover an area of 56 acres and employ over 4,000 people of whom about 1,000 are engaged in manufacturing lathes. H.E.B. have specialized in this branch of engineering since 1863 and are today the biggest and most reputable manufacturers of machine tools in France.

In addition to copying lathes, H.E.B. also manufacture fast tool-room and production lathes having a swing of 11″ to 20″ to which copying attachments may be fitted. These are built to the same high standard and we shall be pleased to supply full particulars on request.

It is now over eight years since the prototype H.E.B. Copying Lathe was built, and during this time a large research and development department has been constantly at work making improvements and perfecting new accessories to enable its usefulness to be extended even further. What better proof could there be of the value of this machine than the fact that since launching it five years ago more than 1,000 have been installed in large and small factories throughout the world? Many have been sold to French and English aircraft and automobile manufacturers who have repeatedly placed further orders after seeing for themselves how H.E.B. Copying Lathes have drastically cut production times under actual working conditions in their own factories. Today one factory alone has over 60 installed. By the use of H.E.B. Copying Lathes total floor-to-floor times for thousands of different components have been reduced to anything between a quarter to a tenth of the time previously taken to machine them on well-equipped center lathes of modern design.

High-speed copying can cut *your* machining costs. Experienced H.E.B. production engineers will be pleased to quote floor-to-floor times for any of your components on receipt of a drawing sketch.

H. E. B. MACHINE TOOLS, INC.
475 FIFTH AVENUE
NEW YORK 17, N. Y.